

## **U.S. CARIBBEAN REGIONAL FISHERIES WORKSHOP**

### ***Workshop Recommendations***

#### **Coral Reef Fisheries Uses**

##### ***Both Puerto Rico & U.S. Virgin Islands***

- Develop low environmental impact alternatives for fishers who are displaced from their traditional fishing areas and livelihoods by marine reserves, or other fisheries restrictions (e.g., restrictions on gill net/trammel net fisheries).
- Strengthen monitoring of commercial and recreational fisheries in order to give scientists, managers and fishers the tools to ensure sustainable management. (Including the validation of fishery self-reporting through port and coastal surveys and development of partnerships with user groups (e.g., fishers & divers) to assist in the collection of data.)
- Enhance science needed for reef fisheries management and conservation, in particular through:
  - Mapping of habitats and studies of habitat utilization and movement of important reef fishery species.
  - Analysis of habitat impacts by different fishing gears and development of techniques and measures to reduce this damage through modification of gear or methods of gear deployment and development of additional regulations, as appropriate.
  - Social science surveys and studies that contribute to the incorporation of local cultural, economic and social needs into fishing regulation and reserve development.

##### ***Puerto Rico***

- Perform a valuation study of the recreational reef fisheries in Puerto Rico beginning in 2003.
- Ensure the sustainability of ornamental fisheries in Puerto Rico.
  - Complete pilot study of ornamental fishery (2003)
  - Permit all sectors of the marine ornamental industry
  - Develop management plans for ornamental species that include fishery dependent and independent monitoring of stocks and impacts, including no-take zone restrictions, minimum and maximum size limits, and exclusion of inappropriate species from collection.

- Link to a certification scheme such as that being developed by the Marine Aquarium Council (MAC) and encourage education of hobbyists to enhance their appreciation and contribution to reef conservation.

### ***U.S. Virgin Islands***

- Reduce the impact on in shore reef fish resources by promoting the development of under utilized offshore pelagic fisheries.
- Develop fisheries enhancement programs to include 1) artificial reefs, 2) FADs (Fish Attraction Device), 3) augmenting juvenile habitat for lobster and reef fish, 4) restocking MPAs (Marine Protected Areas), and 5) coral culture and propagation.

## **Reef Fisheries in the Context of Marine Management**

### ***Both Puerto Rico & U.S. Virgin Islands***

- Implement networks of no-take (non-extractive) marine reserves as an integral tool for an ecosystem approach to conservation - reflecting the scientific consensus that such reserves are the most effective way to benefit both reef fisheries and conservation.
- Utilize MPAs as control sites to determine the impact of fishing, habitat destruction, and pollution on coral reef habitat and fisheries populations.
- In cooperation with the fishing community, locate, identify, evaluate, protect and enforce (through timely seasonal or permanent closures) spawning aggregation sites.
- Reduce non-fishing stresses to coral reefs and associated habitats (e.g., loss of mangroves & seagrass beds due to dredging, coastal development, siltation, eutrophication, pollutants, etc.) that are degrading fisheries habitats, water quality and productivity.

### ***Puerto Rico***

- Develop management plans for existing marine protected areas in Puerto Rico.
- With participation and input from resource users, finalize and implement new regulations for laws 278 and 307 of July 2000 that require 3% of the insular platform to be declared a no take zone.
- As a first step, reinvigorate the process to designate a no-take area in La Parguera (Turrumote Reef) in partnership with the fishing community and other stakeholders.

- Implement coral reef protection law 147 that requires the establishment of zoning, such as reef recovery areas, and identification of ecologically sensitive areas.

### ***U.S. Virgin Islands***

- Complete the designation of the St. Croix East End Marine Park, including fishery restriction zones (2003).
- Evaluate the development of sustainable fisheries within specific zones within the MPA (e.g., zones for catch-and-release and other zones for commercial and recreational fishing).
- Protect grouper and snapper spawning areas (2003).
- Complete the revision of the commercial fishing permitting system and revision of Virgin Islands fishing regulations.

## **Reef Fisheries Regulations and Enforcement**

### ***Both Puerto Rico & U.S. Virgin Islands***

- Increase enforcement capacity (through funding, personnel and equipment) in both USVI and Puerto Rico (with a priority for 10 new enforcement officers in Puerto Rico and 6 in USVI beginning in 2003 specifically targeted for marine resource conservation enforcement).
- Ensure complementarity and coordination of territory and federal regulations and enforcement. Develop integrated, systemic (rather than jurisdictional) approaches, and ensure that any new regulations optimize enforceability (e.g., no-take reserves are easier to enforce than areas closed to only a few gear types).
- Ensure that education is a key component of enforcement and enhance cooperative solutions between the enforcement and fishing communities.
- Finalize NOAA-Puerto Rico-USVI cooperative MOU for enforcement.

### ***Puerto Rico***

- With input from resource users, approve and implement the new fishery regulations in support of Law 278 by 2003 so that other laws already in place can be implemented.
- Develop a final draft of coral reef regulations for implementation of Law 147.

- Increase joint NOAA/DNER Enforcement Task Force to 16 agents.
- Strengthen enforcement of the regulation of gill and trammel net fisheries on coral reefs.

### ***U.S. Virgin Islands***

- Pre-empt shifts to more damaging fishing gear by banning or significantly regulating the use of bottom-set gill and trammel nets on coral reefs as recommended by the USVI Fishery Advisory Committees.
- Establish a marine enforcement section of the Division of Environmental Enforcement to educate fishers and interpret and enforce only fisheries regulations.

## **Participation of Fishers, Education, Outreach and Community Involvement**

### ***Both Puerto Rico & U.S. Virgin Islands***

- Fully involve fishers in all aspects of decision-making and management of reef fisheries.
- Develop innovative mechanisms for linking communities, fishers, affected industries (e.g., dive and tourism industries), NGOs, scientists and government agencies in reef conservation and management.
- Enhance formal and informal inclusion of marine conservation education in primary and secondary schools through programs for students and educators.
- Translate science for the general public, fishers and decision-makers.
- Develop outreach products focused on adult users, especially resource user groups, resource managers, enforcement officers and decision makers that are innovative and address issues raised in this workshop.
- Evaluate past and present outreach efforts in terms of their effectiveness in changing community attitudes and actions.
- Develop information and outreach programs to address issues dealing with the utilization of commercial fishing resources for fishers (co-ops, marketing of products, fish handling, etc.)

### ***Puerto Rico***

- Explore possibilities of a public aquarium for Puerto Rico.
- Explore the possibility of establishing cooperative ventures between fishers and the private sector to establish environmentally responsible mariculture projects.